WHAT IS CLAIMED IS:

1. A method for stopping the spindle motor of an optical disc system, comprising:

deriving a reversing torque in the spindle motor during a first period;

decreasing the reversing torque during a second period; and

deriving a locking torque in the spindle motor during a third period, wherein the locking torque is substantially at a level smaller than that for actuating the spindle motor and the spindle motor remains stationary after the third period terminates.

2. The method of claim 1, wherein a largest reversing torque permitted by the spindle motor is derived during the first period.

3. The method of claim 1, wherein a spindle motor control signal is used to control the reversing torque and the locking torque derived in the spindle motor.

4. The method of claim 3, wherein a signal level of the spindle motor control signal approaches to a lock level during a second period, wherein the lock level is at a level substantially smaller than that for starting to actuate the spindle motor.

5. The method of claim 3, wherein the spindle motor control signal having a signal level between the lock level and a motor stoppage level indicative of the spindle motor remaining stationary is generated during a third period.

6. The method of claim 3, wherein a signal level of the spindle motor control signal decreases linearly during the second period.

7. The method of claim 3, wherein a signal level of the spindle motor control signal decreases smoothly following a curve during the second period.

8. A method for stopping a spindle motor of an optical disc system, comprising:

providing a spindle motor control signal having a signal level for deriving a reversing torque to brake the spindle motor during a first period;

decreasing the level of the spindle motor control signal to decrease the reversing torque during a second period; and

providing the spindle motor control signal having a signal level smaller than a lock level to derive a locking torque during a third period, wherein the lock level is smaller than a threshold indicative of starting to actuate the spindle motor and the spindle motor stops from rotation after the third period terminates.

9. The method of claim 8, wherein a largest reversing torque permitted by the spindle motor is derived in the spindle motor during the first period.

10. The method of claim 8, wherein the signal level of the spindle motor control signal decreases to approach to the lock level during a second period.

11. The method of claim 8, wherein the spindle motor control signal is substantially at a level between the lock level and a motor stoppage level indicative of the spindle motor remaining stationary during a third period.

12. The method of claim 8, wherein the locking torque is substantially smaller than that for starting to actuate the spindle motor from rotations.

13. The method of claim 8, wherein the signal level of the spindle motor control signal decreases linearly during the second period.

14. The method of claim 8, wherein the signal level of the spindle motor control signal decreases smoothly following a curve during the second period.

15. A control device inside an optical disc system for stopping rotations of a spindle motor, comprising:

a motor driving circuit for driving the spindle motor; and

an optical disc control chip for providing a first motor spindle control signal to the motor driving circuit during a first period so that a reversing torque is derived to brake the spindle motor, providing a second motor spindle control signal to the motor driving circuit during a second period so that the reversing torque is decreased gradually, providing a third motor spindle control signal to the motor driving circuit during a third period so that a locking torque having a level smaller than that for starting to actuate the spindle motor from rotation is derived in the spindle motor, wherein the spindle motor remains stationary after the third period terminates.

16. The control device of claim 15, wherein the reversing torque for braking the spindle motor in the first period is a largest reversing torque permitted by the spindle motor.

17. The control device of claim 15, wherein the lock level is smaller than a threshold for starting to actuate the spindle motor.

18. The control device of claim 15, wherein the level of the spindle motor control signal decreases to approach to a lock level indicative of starting to actuate the spindle motor during a second period.

19. The control device of claim 18, wherein the spindle motor control signal is substantially at a level between the lock level and a motor stoppage level indicative of the spindle motor remaining stationary during a third period.

20. The control device of claim 15, wherein the locking torque is substantially smaller than that for starting to actuate the spindle motor.